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(54) **AN ADJUSTABLE FASTENING MECHANISM OF THE THERMAL EVAPORATOR FOR THE SHADE OF THE LIGHT SOURCE**

(57) The adjustable fastening mechanism of the thermal evaporator for the light source shade consists of a base (1) with an optional aperture (6) having fastening components (2) for attachment of the shade, base (1) also has the adjustable fastening components (7) for changing the distance of the dish of the technical evaporator from the light source. The adjustable fastening components (7) for changing the distance of the dish of the thermal evaporator from the light source are formed by at least two coulisses (7.1), each having a longitudinal groove (7.2) with a set of adjoining sloping grooves (7.3), horizontally oriented adjustable dish holder (7.4) with at least two stones (7.5) fitting into the sloping grooves (7.3) is located between the coulisses (7.1). The adjustable dish holder (7.4) has an operating handle (7.6). The fastening components (2) for attachment of the shade are length-adjustable telescopically with a spring. The fastening components (2) for attachment of the shade have the terminal fastening elements (3), which are hooks, clamps, screws, or magnets.

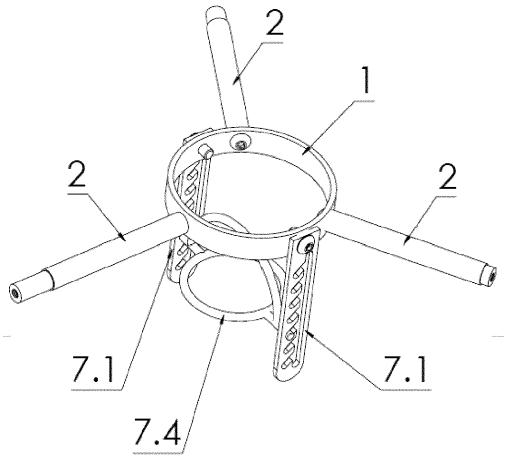

Fig. 5

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Description

Technical field of the invention

[0001] The invention relates to such construction of the adjustable fastening mechanism of the thermal evaporator for the shade of the light source, where the intensity of evaporation depends on the mutual distance of the thermal evaporator from the light source. The invention falls into the area of useful interior accessories.

Background of the invention

[0002] Scented lamps, evaporators and water diffusers with possibly fragrant oils are currently common decorative and useful accessories for interiors and especially households. Thermal water evaporators based on various heat sources are known from state of the art, such as e.g. paraffin or oil burner, catalytic source, hot stones or light bulb, which results in their applicability in households, offices, saunas, etc. Scented lamps are largely based on a heat source which is a paraffin or oil burner. Water diffusers, possibly containing fragrant oils, are based on blowing a cold water vapour.

[0003] The solution described in document US 6328935 B1 is known in the state of the art, wherein the aroma batcher comprises the flame source for providing heat, the open, porous annular ceramic substrate adapted to absorb and reversibly retain an amount of at least one aromatic fluid therein and the support structure for maintaining the porous substrate in the coaxial distance above each other from the flame source. The heat generated by the flame source induces a retained aromatic fluid in the substrate to dissipate into the ambient air. The supporting structure is the vertical telescopic rod element locked by screws that manipulate the height of the annular ceramic substrate with the contained aromatic fluid.

[0004] Another solution from the state of the art described in document DE 29807474 U, where the aroma dish is attached firmly above the heat source and the height of the heat source itself is adjusted on vertical rods.

[0005] Another solution from the state of the art described in document JP 3175002 U, where an aroma dish is inserted into the tight hole in the lamp shade above the heat source without the possibility of height adjustment of the distance of the heat source from the heat evaporator dish.

[0006] The deficiencies of the existing solutions described above are that the heat sources are primarily open flame burners, which do not guarantee sufficient protection against possible fire in the event of the lamp tipping over. Also, the adjustment constructions, which change the mutual distance of the heat source from the axes of the heat evaporator dish, are open on the outside and do not have to match the design with the interior where the evaporator is located. In some solutions, the height adjustment of the mutual distance of the heat source from the axis of the heat evaporator dish requires performing the operations on several adjustment elements, which makes the handling more complicated.

Summary of the invention

[0007] The shortcomings in the state of the art in the field of thermal fragrance lamp evaporators are solved by the proposed construction of the adjustable fastening mechanism of the thermal evaporator for the light source shade, the essence of which lies in the fact that it consists of the base with the possible sight glass. The base can have different geometric shapes. It is a shape e.g. ring, disc. They are fixed to the base e.g. by means of screws, fastening components e.g. in the shape of rods. By means of these fastening members, the base is fastened to the shade via the terminal fastening elements, which can be hooks or clamps, or pliers, screws, or magnets. It is advantageous to fasten the base to the shade in the upper part of the shade. However, the base can also be fixed under the light source and attached to the shade. Furthermore, the base also has adjustable fastening components for changing the distance of the dish of the thermal evaporator from the light source in order to change the intensity of evaporation. The adjustable fastening components for changing the distance of the dish of the thermal evaporator from the light source are of the construction which is formed by at least two coulisses that are arranged parallel on the sides of the base and are also fastened by screws. Each coulisse of the adjustable fastening component has a longitudinal groove with the set of adjoining sloping grooves. The adjustable dish holder with at least two stones fitting into the sloping grooves in one plane is located between the coulisses. The dish holder is also not limited in shape, in this case, it is the coarse solid wire formed into a circle, but it can also be e.g. a short tube in height or simply a surface capable of carrying the dish. From the point of view of stability, it is advantageous to use three coulisses with three stones. The construction with two coulisses and two stones is also used. In order to facilitate handling during the height adjustment of the dish, the adjustable dish holder has the attached control handle as the holder, which can alternatively be attached also to the stones. The control handle can be used in the construction, but the adjustable dish holder can also be without the handle.

[0008] Another essential feature of the solution according to the invention is the possibility of flexible attachment of the fastening components to the shade of the light source of different diameters and from different manufacturers. This is achieved in that the fastening components of the light source shade holder are adjustable in length. This can be realized e.g. by telescopic rods with spring.

[0009] The advantages of the adjustable fastening mechanism of the thermal evaporator for the light source shade according to the invention are evident from its effects, which are shown externally. The effects and originality of the present construction lie in the fact that it is

safe because it does not use an open flame. The heat source is the light source e.g. from a tungsten filament lamp or a halogen lamp or an LED light source.
Evaporation intensity control is provided by the simple mechanism with manual adjustment of the thermal evaporator dish above the light source. It is also universal, as it can be attached to various light source shades with the use of length-adjustable fastening components. To change the relative position between the heat source and the thermal evaporator, a smaller number of actions is also required compared to other state-of-the-art solutions and is, therefore, faster and easier overall.

Overview of figures in the drawings

[0010] The adjustable fastening mechanism of the thermal evaporator for the light source shade according to the invention is shown in the drawings, wherein Fig. 1 is a view of the base with the sight glass and shade fastening components. Fig. 2 and 3 show an exploded view of two components of the adjustable fastening components for changing the distance of the dish of the thermal evaporator from the light source. Fig. 4 is a view of the complete adjustable fastening component for changing the distance of the dish of the thermal evaporator from the light source. Fig. 5 and 6 are views of the assembled adjustable evaporator fastening mechanism for the light source shade. Fig. 7 is a view of the adjustable fastening mechanism of the thermal evaporator applied in the shade of the light source.

Example of embodiments of the invention

[0011] It is understood that the individual embodiments according to the invention are presented for illustration and not as limitations of the invention. Those skilled in the art will find, or be able to ascertain using no more than routine experimentation, many equivalents to specific embodiments of the invention. Such equivalents will also fall within the scope of the protection claims. For those skilled in the state of the art, it cannot be a problem of optimal design of construction, so these features have not been addressed in detail.

Example 1

[0012] In this example of the specific embodiment of the subject of the invention, the construction of the adjustable fastening mechanism of the thermal evaporator for the light source shade 8 is described, as shown in Fig. 2 to 6. It consists of the base 1 with the aperture 6. Base 1 has the shape of a ring. Rod-shaped fastening components 2 are fastened to the base 1 by means of screws 4. By means of these fastening components 2, the base 1 is fastened to the shade 8 via the terminal fastening elements 3, which are hooks. Alternatively, they are clamps, pins, screws or magnets, and others. Base 1 also has adjustable fastening components 7 for changing the distance of the dish of the thermal evaporator from the light source. The adjustable fastening components 7 for changing the distance of the dish of the thermal evaporator from the light source are formed by two coulisses 7.1 which are arranged vertically opposite each other on opposite sides of the base 1 and are also fastened by screws 5. Each coulisse 7.1 of the adjustable fastening component 7 has the vertical longitudinal groove 7.2 with the system of adjoining sloping grooves 7.3. Between the coulisses 7.1 there is the horizontally oriented adjustable dish holder 7.4 with two stones 7.5 on opposite sides fitting into the sloping grooves 7.3 in one plane. The dish holder 7.4 is the coarse solid wire formed into the circle.

[0013] In an alternative embodiment, the base 1 is without the sight glass, it is the disc solid body. In another alternative embodiment, the adjustable fastening components 7 for changing the distance of the dish of the thermal evaporator from the light source are formed by three coulisses 7.1 which are arranged vertically on the sides of the base 1 and are also fastened by screws 5. Also, the adjustable dish holder 7.4 has three stones 7.5 fitting into the sloping grooves 7.3 of three coulisses 7.1. The dish holder 7.4 is alternatively made as a bounded planar structure with a rebate, which is not shown in any figure.

Example 2

[0014] In this example of a specific embodiment of the subject of the invention, the improved construction of the adjustable fastening mechanism of the thermal evaporator for the light source shade 8 is described, as shown in Figs. 2 to 6 and as described in Example 1. However, there is an addition where an adjustable holder 7.4 of the dish is attached to the operating handle 7.6, which can be also alternatively attached to the stones 7.5. The operating handle 7.6 further simplifies the handling with the whole mechanism.

Example 3

[0015] In this example of the specific embodiment of the subject of the invention, another improved construction of the adjustable fastening mechanism of the thermal evaporator for the light source shade 8 is described, as shown in Figs. 2 to 6 and as described in Examples 1 and 2. However, there is such completion, where the fastening components 2 of the light source shade 8 holder are adjustable in length. This is realized by telescopic rods with spring, which simplifies the whole adjustment process. The fastening of the base 1 to the shade 8 is in the upper part of the shade 8 as shown in Fig. 7.

[0016] In an alternative embodiment, the attachment of the base 1 to the shade 8 is in the lower part of the shade 8, which is not shown in any figure. An analogous fastening of the base 1 in the lower part of the shade 8 is also possible in other embodiments. It is thus possible

to optimally adapt the fastening of the base 1 to the orientation of the shade 8, resp. light source and thus influence, for example, the required intensity of evaporation or other technical and aesthetic parameters.

Industrial applicability

[0017] The adjustable fastening mechanism of the thermal evaporator for the light source shade according to this inevntion are intended for the area of useful interior accessories.

Claims

1. An adjustable fastening mechanism of a thermal evaporator for a light source shade, **characterized in that** it consists of a base (1) having fastening components (2) for holding the shade, the base (1) also having adjustable fastening components (7) for changing the distance of a thermal evaporator dish from a light source.

2. An adjustable fastening mechanism of a thermal evaporator for a light source shade according to claim 1, **characterized in that** the adjustable fastening components (7) for changing the distance of the thermal evaporator dish from the light source are formed by at least two coulisses (7.1), wherein each having a longitudinal groove (7.2) with a set of adjoining sloping grooves (7.3), an adjustable dish holder (7.4) with at least two stones (7.5) fitting into the sloping grooves (7.3) between the coulisses (7.1).

3. An adjustable fastening mechanism of a thermal evaporator for a light source shade according to claim 1, **characterized in that** the base (1) has a aperture (6).

4. An adjustable fastening mechanism of a thermal evaporator for a light source shade according to claim 2, **characterized in that** the adjustable dish holder (7.4) has a operating handle (7.6).

5. An adjustable fastening mechanism of a thermal evaporator for a light source shade according to claim 1, **characterized in that** the fastening components (2) of the shade attachment are length-adjustable.

6. An adjustable fastening mechanism of a thermal evaporator for a light source shade according to claim 5, **characterized in that** the fastening components (2) of the shade attachment are telescopic with a spring.

7. An adjustable fastening mechanism of a thermal evaporator for a light source shade according to claims 5 and 6, **characterized in that** the fastening components (2) of the shade attachment have terminal fastening elements (3).

8. An adjustable fastening mechanism of a thermal evaporator for the light source shade according to claim 7, **characterized in that** the terminal fastening elements (3) of the fastening components (2) of the shade attachment are hooks.

9. An adjustable fastening mechanism of a thermal evaporator for the light source shade according to claim 7, **characterized in that** the terminal fastening elements (3) of the fastening components (2) for the shade attachment are clamps.

10. An adjustable fastening mechanism of a thermal evaporator for the light source shade according to claim 7, **characterized in that** the terminal fastening elements (3) of the fastening components (2) for the shade attachment are screws.

11. An adjustable fastening mechanism of a thermal evaporator for a light source shade according to claim 7, **characterized in that** the terminal fastening elements (3) of the fastening components (2) for the shade attachment are magnets.

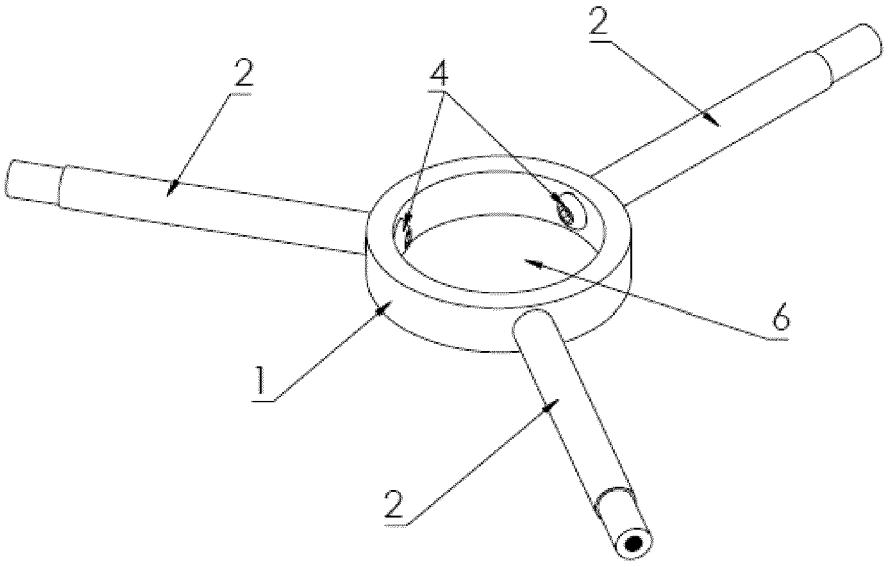

Fig. 1

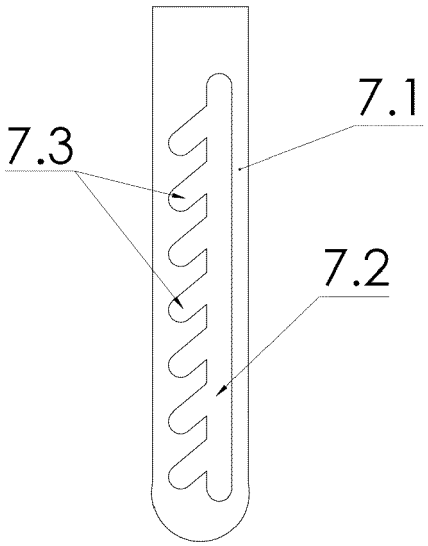

Fig. 2

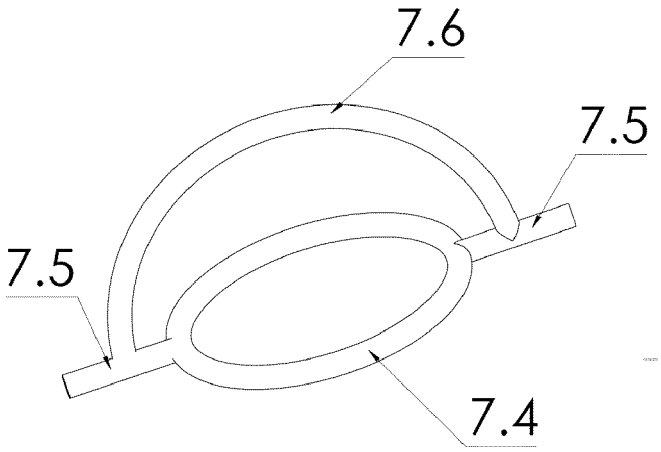

Fig. 3

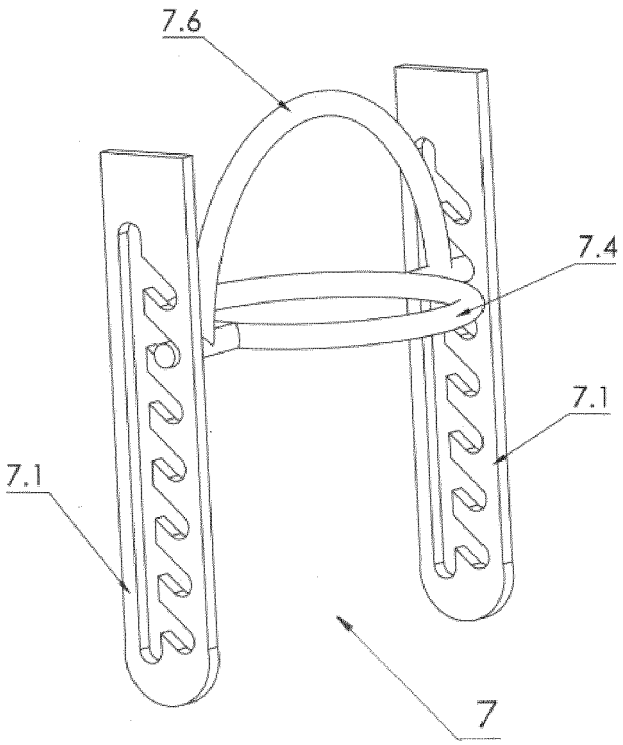

Fig. 4

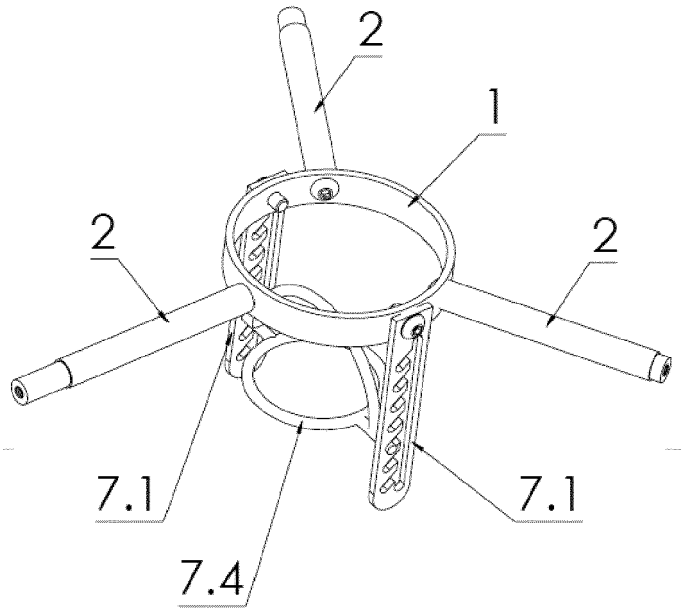

Fig. 5

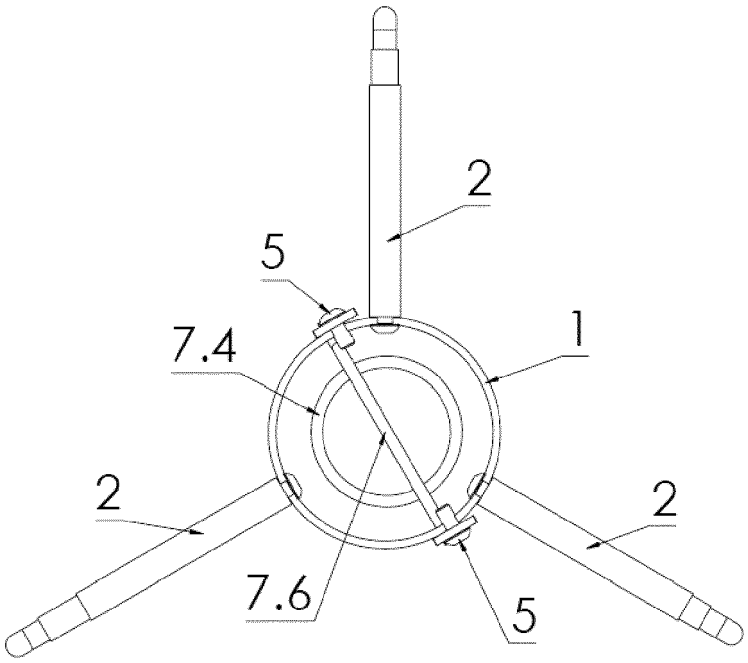

Fig. 6

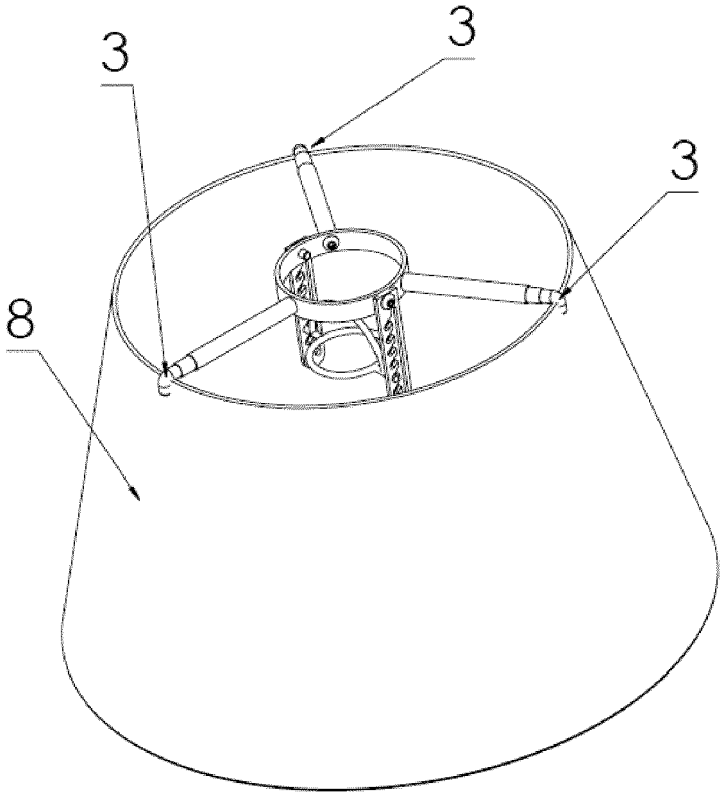

Fig. 7

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EUROPEAN SEARCH REPORT

Application Number
EP 21 19 0637

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	KR 101 895 189 B1 (LEE JUN SIC [KR]; KIM IK HWAN [KR] ET AL.) 4 September 2018 (2018-09-04) * paragraph [0024] * * paragraph [0033] - paragraph [0063] * * figures 1-5 *	1,3,5	INV. F21V1/00 F21V17/02 F21V33/00 A61L9/03 ADD. F21V17/10
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X	KR 2016 0028698 A (JEONG GEUN YOUNG [KR]; YOO SEUNG WON [KR]) 14 March 2016 (2016-03-14) * paragraph [0013] - paragraph [0035] * * figures 1,2 *	1,3,5	
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A	CN 201 814 892 U (WENBO HAN) 4 May 2011 (2011-05-04) * the whole document *	1-11	

1 The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	18 January 2022	Soto Salvador, Jesús

CATEGORY OF CITED DOCUMENTS

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

REFERENCES CITED IN THE DESCRIPTION

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- DE 29807474 U **[0004]**
- JP 3175002 U **[0005]**